

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
19 April 2001 (19.04.2001)

PCT

(10) International Publication Number
WO 01/28235 A1

(51) International Patent Classification⁷: **H04N 5/445, 7/173**

(21) International Application Number: **PCT/IB00/01521**

(22) International Filing Date: **6 October 2000 (06.10.2000)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:
60/159,016 12 October 1999 (12.10.1999) US
09/680,565 5 October 2000 (05.10.2000) US

(71) Applicant and

(72) Inventor: **GOLDSCHIEDER, Daniel, F. [AT/CH];**
Artherstrasse 133, CH-6317 Oberwil (CH).

(74) Agent: **KONLE, Tilmar; Benderstrasse 23a, 81247 München (DE).**

(81) Designated States (national): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,**

DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

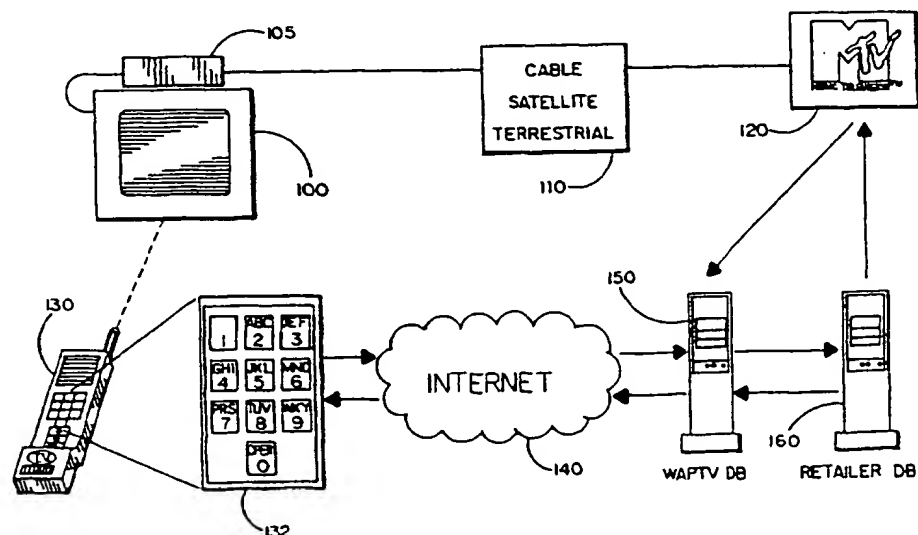
(84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).**

Published:

- *With international search report.*
- *Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **METHOD AND APPARATUS FOR INTEGRATED INTERNET ACCESS, TELEVISION CONTROL AND TRANS-ACTION INITIATION**



(57) Abstract: A method and system enabling singular control and unified co-transmission of both television programming and Internet content, providing access and interaction with Internet information which relates or adds to television programming. The method and system of the present invention provide a wireless communications device having an infrared transmitter or other television control means commonly found on television remote controls, the device being compatible with the WAP standard, or any other means of accessing information over the Internet using a wireless device. To control the television and initiate interactive viewing, the user first educates the wireless device by activating a connection to a programming information database on the Internet. The viewer is directed by the device to enter identifying information. Information is compared to a database which contains a feed code for the entered region and system designating the specific TV content available to the viewer.

WO 01/28235 A1

METHOD AND APPARATUS FOR INTEGRATED INTERNET ACCESS, TELEVISION CONTROL AND TRANSACTION INITIATION

5

FIELD OF THE INVENTION

The present invention relates generally to the field of wireless access to information on a wide area network such as the Internet, and more specifically to the field of wireless access of Internet data for the purpose of controlling and interacting with a television program and related interactive media.

BACKGROUND ART

15

There are now hundreds of different sources of television programming information, such as digital satellite services, C- and K-band analog satellite services, cable channels, and traditional "terrestrial" broadcast services. To learn of and choose from the programming options available at a given time to a user, the user may refer to a printed guide found in a daily newspaper or other printed source. However, the number of options available to a well-connected viewer can be so great that a printed source becomes impractical to use. In the alternative, the viewer might use an electronic, interactive program guide such as that found in the DSS digital satellite system or available from TVGuide OnScreen or Gemstar. Here too, however, there are shortcomings. Often the program guide information is generic for an entire nation or time zone, and is not customized to the programming selections available in a viewer's particular geographic region, thereby depriving the viewer of important local or regional programming information.

30

Another shortcoming of the available programming guide technology is the lack of a relationship between television programming and related

programming and services found on the Internet. For example, an online merchant may offer for sale a recording of the music heard during a music video broadcast on television. However, the music video viewer will not be aware of the recording sale offer, since there is no currently available method
5 of getting that information to the user during the television broadcast.

This lack of cohesive and comprehensive programming information source for television and the Internet is accompanied by a powerful technology trend. By 2001, it is estimated there will be over 500 million
10 wireless subscribers using wireless telephones, personal digital assistants and other personal communications devices providing wireless access to the Internet. The Wireless Application Protocol is an industry-wide standard intended to enable presentation and delivery of information from the Internet or other wide area network to these devices. Nonetheless, despite the wide
15 availability of wireless devices and television sets, no product or service has yet been offered to leverage these two technologies into a unified product.

SUMMARY OF THE INVENTION

20

To address the shortcomings of the available art, the present invention provides a method and system enabling singular control and unified co-transmission of both television programming and Internet content, providing access and interaction with Internet information which relates or adds to
25 television programming.

The method and system of the present invention provide a wireless communications device having an infrared transmitter or other television control means commonly found on television remote controls, the device
30 being compatible with the WAP standard, the Palm Operating System ("OS"), Symbian OS, Windows CE OS or any other means of accessing information over the Internet using a wireless device. To control the television and initiate

interactive viewing, the user first educates the wireless device by activating a connection to a programming information database on the Internet (unless such database content is already loaded onto the device by some other means).

5

The viewer is directed by the device to enter identifying information, such as zip code, phone number, cable system-identifying information, and/or other information identifying the user's method of receiving television programming. The viewer's entered information is compared to a database which contains a feed code for the entered region and system designating the specific TV content available to the viewer. The feed code information is forwarded to the wireless device for future use. Once programming is complete, the viewer may use the wireless device to control the television, in addition to accessing the wireless network or content on the Internet.

15

For example, by entering the numbers "2" and "4", then pressing an activation button, the user activates channel number 24 on his set top television controller or television tuner. At or about the same time the wireless device also transmits the user's selected station number and assigned feed code to the database, thereby uploading the user's present viewing activity. In response, Internet content related to the viewing activity can be downloaded to the user's wireless device or set-top box, enabling on-line commerce, information access, and other capabilities which will be understood by those familiar with the Internet and the related art.

20

25

BRIEF DESCRIPTION OF THE DRAWINGS

The aforementioned objects and advantages of the present invention, as well as additional objects and advantages thereof, will be more fully understood hereinafter as a result of a detailed description of a preferred embodiment when taken in conjunction with the following drawings in which:

30

FIG. 1 is a block diagram illustrating how, using the system and method of the present invention, the viewer designates particular viewing options for the viewer's television viewing location;

5

FIG. 2 is a block diagram illustrating how the system and method of the present invention provides simultaneous control of television programming and Internet content;

10

FIG. 3 illustrates electronic commerce activity enabled by the method and system of the present invention.

15

While the invention is susceptible to various modifications and alternative forms, specific embodiments thereof have been shown by way of example in the drawings and will herein be described in detail. It should be understood, however, that the detailed description is not intended to limit the invention to the particular forms disclosed. On the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention as defined herein.

20

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Referring first to FIG. 1, there is illustrated a wireless telephone device 130, which may comprise any wireless device providing access to the Internet or other wide area network. Wireless device 130 also preferably includes circuitry for acting as a "universal" remote control, capable of adapting at least some rudimentary functions of a standard television remote control device. Also included on wireless device 130 is a special button or software-enabled television control element 131, which will provide a number of functions to be discussed herein. In a preferred embodiment, if the viewer activates television control element 131, wireless device 130 automatically connects, preferably via the Internet (as shown) or any other wide area network using

30

the WAP standard, to "WAPTV" database 150. The WAPTV database requests from the viewer some indication of location and the method or methods of distribution through which the user accesses television programming (e.g., cable, analog or digital satellite, broadcast). For example, upon receiving a vocal cue, the viewer might enter the local telephone area code or mailing zip code using a telephone key pad 132, along with a "1" to designate cable television. Alternatively, this data might be gathered automatically from the television and/or remote control. Upon receiving the viewer's information, the WAPTV database 150 looks up a "feed code" identifying the specific television programming information available to the viewer and forwards the feed code to memory in wireless device 130.

Referring next to FIG. 2, there is provided a block diagram illustrating the next step in the viewer's use of the method and system of the present invention. For example, the user may desire to watch a selected television program on a television receiver 100 which may be connected to a cable or satellite system 110 through a set top box 105 or to a conventional terrestrial system through an antenna (not shown). The viewer enters the channel information (for example, "2", and "4" for channel 24, as shown in element 132) on wireless device 130, quickly followed by activating the television control element 131 so that the device knows the viewer does not desire to dial a telephone number or engage another device function. Entering "24" as described can preferably act to change the station, if device 130 is acting as a universal remote, or can simply result in the selected television program information being forwarded, along with the device's assigned feed code, across the Internet to WAPTV database 150. If for example, a viewer in New York is watching or has selected to watch MTV, then the combination of the channel number and the feed code will designate in the WAPTV database that the viewer is watching MTV's east coast U.S. broadcast 120. The WAPTV database server then looks up the uniform resource locator ("URL") or other wide area network location-designating information that most closely relates to the selected programming, or in a preferred electronic-commerce

focuses embodiment of the present invention, a site designated by MTV management as a licensed source for such related information.

For example, the user might be deep-linked to CDNOW or
5 Amazon.com at a page offering for sale a recording of the music then playing on east coast MTV. Wireless device 130 then receives display information from the linked e-commerce site server 160 (via WAPTV database server 150) and displays same to the user (e.g., "Buy the CD for \$19.90" and/or "Buy the DVD of the movie for \$29.90"). Referring next to FIG. 3, the viewer
10 then uses a cursor movement device or, as shown, up and down arrows 134, to select from a variety of purchasing choices. "YES" button 135 may be optionally provided to tie the viewer into the YES network, proprietary to the assignee of the present invention. If YES button 135 is activated, YES transaction log database 170 is used to access viewer payment information
15 and confirm retailer commission payment to the television programming provider.

The present invention therefor provides a novel method for providing related Internet content and television programming through a wireless
20 device. Although the present invention has been shown and described with respect to preferred embodiments, various changes and modifications lie within the spirit and scope of the claimed invention. For example, the device used to access Internet information need not be a wireless device - it could instead be any Internet access device providing the ability to forward
25 television feed code and current channel information, such as a notebook computer, and preferably also including television control means, such as an infrared transmitter found on most currently available notebook computers. Thus, the corresponding structures, materials, acts and equivalents of all means or step plus function elements in the claims are intended to include
30 any structure, material or acts for performing the functions in combination with other elements as described herein.

CLAIMS

What is claimed is:

1. A unitary apparatus for controlling both television program selection and Internet access and transactions; the apparatus comprising:
 - 5 a television channel selector and transmitter for controlling a television receiver;
 - an Internet access-enabled transceiver for two-way data communications over the Internet; and
 - a selector for designating when a transmission from said apparatus is a
10 television receiver control transmission.
2. The apparatus recited in claim 1 wherein said apparatus further comprises a data display and a plurality of keys for entering data for facilitating said two-way data communications over the Internet.
15
3. The apparatus recited in claim 1 wherein said transmitter and said transceiver are both wireless communications devices.
4. The apparatus recited in claim 1 further comprising cellular phone
20 circuits.
5. The apparatus recited in claim 1 further comprising computer circuits.
6. The apparatus recited in claim 1 further comprising personal digital

assistant circuits.

7. The apparatus recited in claim 1 further comprising means for automatically transmitting a message over the Internet when said selector is
5 activated.

8. A system for promoting and carrying out electronic commerce over the Internet based upon a television viewer's program selections; the system comprising:

10 a remote control device for selection of television programming by a viewer, said device having an Internet-access enabled transceiver for wireless data communications with a remote server including communication of television program selection data;

at least one remote server selectively connected by the Internet for data
15 communications with said remote control device and having a data base for conveying television programming information to said remote control device depending upon parameters relating to said viewer; and

a television receiver that is within the range of said remote control device.

20

9. The system recited in claim 8, said at least one server further comprising means for selecting electronic commerce information from said database depending upon a received viewer's television program selection data.

10. The system recited in claim 8 wherein said remote control device also comprises a cellular phone.

5 11. The system recited in claim 8 wherein said remote control device also comprises a computer.

12. The system recited in claim 8 wherein said remote control device also comprises a personal digital assistant.

10

13. The system recited in claim 8 wherein said remote control device also comprises data entry keys and a data display.

14. The system recited in claim 8 wherein said parameters are selected
15 from the group consisting of telephone area code, postal zip code, geographic location, phone number and type of television reception.

15. A method of facilitating electronic commerce over the Internet based upon a television viewer's program selections, the method comprising the
20 steps of:

a) providing a television remote control device having an Internet-access enabled transceiver for wireless data communications with a remote server;

b) communicating viewer's television program selections to said remote

server each time a new program selection is made;

c) transferring data from said remote server to said remote control device, said data being selected from a database in response to said program selection; and

5 d) providing for data entry and for data display for said viewer to facilitate steps b) and c).

16. A method for integrating television program control and two-way data communications into a unitary wireless device; the method comprising:

10 a) providing a television remote control circuit for controlling program selection of a television receiver;

b) providing a wireless two-way data communications circuit;

c) programming said communications circuit to enable data transfer over a wide area network;

15 d) integrating said remote control circuit and said data communications circuit into a unitary portable housing; and

e) providing data entry keys and display functions on said housing, at least one of said keys being used selectively for both television program selection and data communications.

20

17. The method recited in claim 16 further comprising the step of providing at least one other of said keys for designating whether said data entry keys are being used for television program selection or for data communications.

18. The method recited in claim 16 further comprising the step of automatically communicating a selected television program identification over said wide area network each time a program selection is made.

1/3

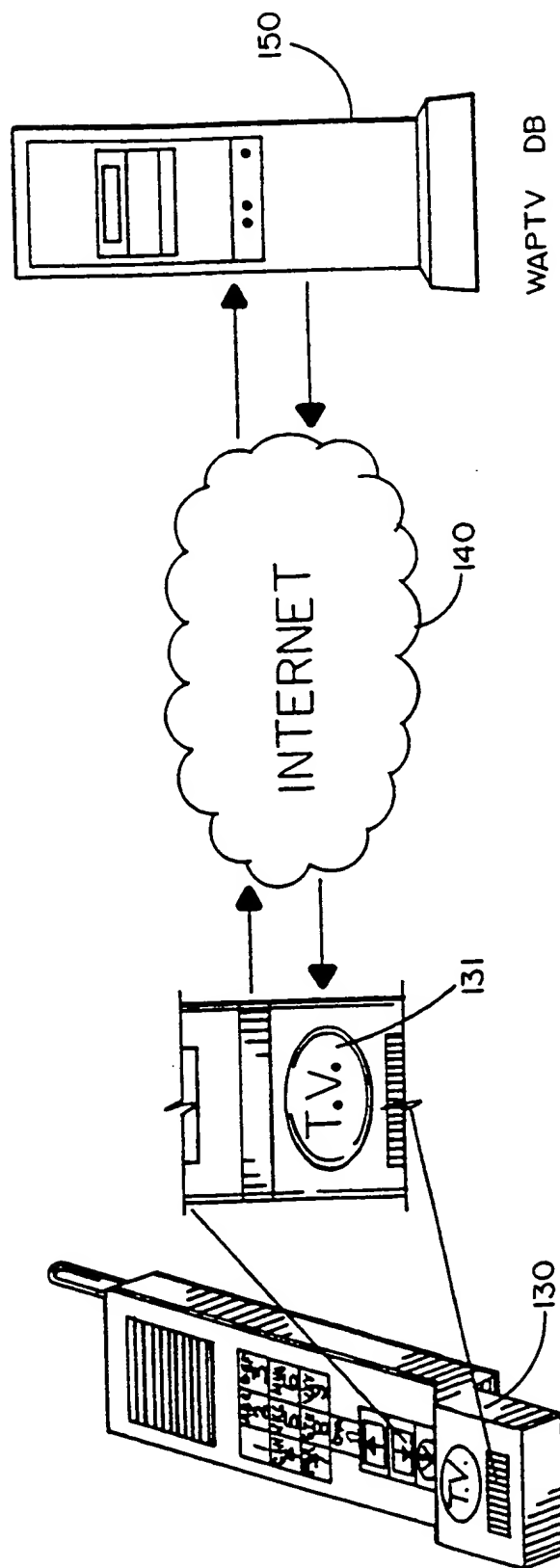


FIG. 1

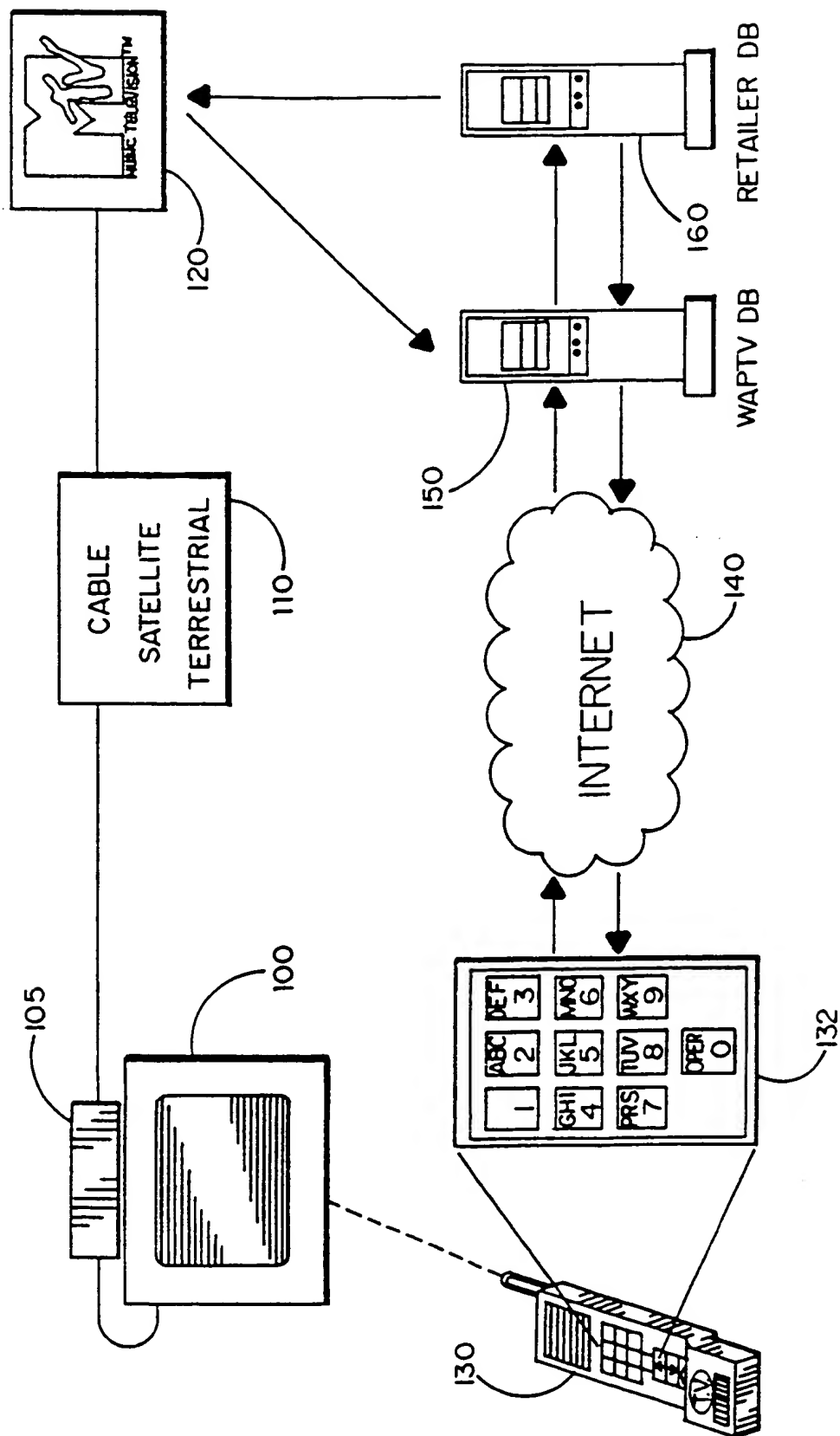


FIG. 2

3/3

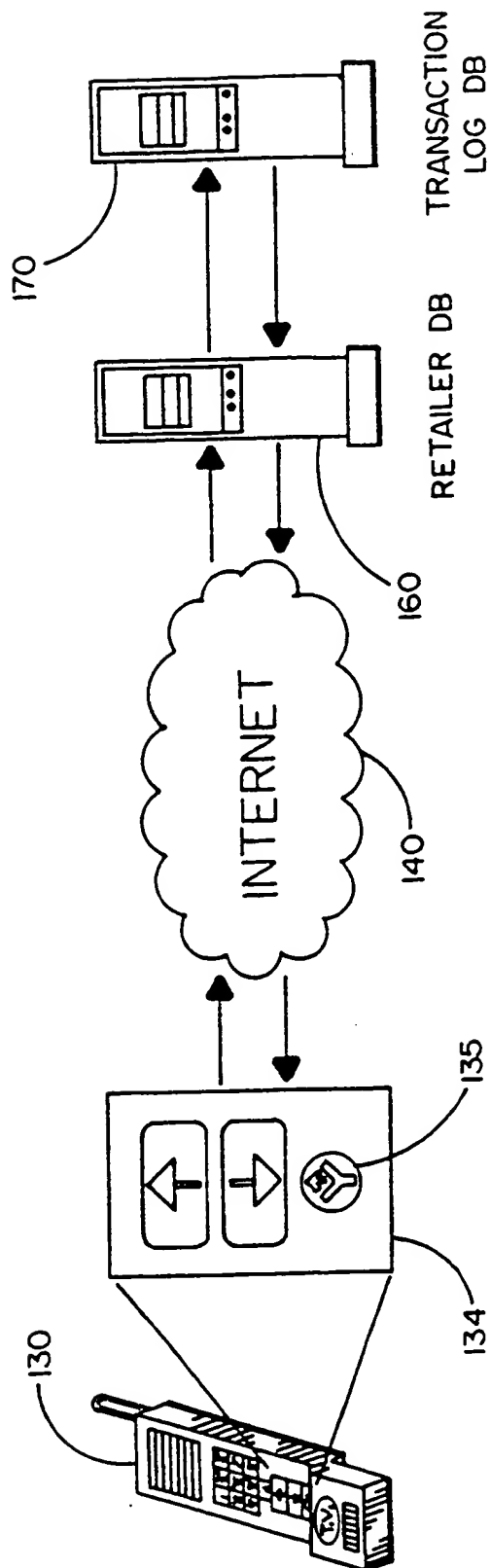


FIG. 3

INTERNATIONAL SEARCH REPORT

In ternational Application No

PCT/IB 00/01521

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04N5/445 H04N7/173

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 04568 A (RADIOSCAPE) 28 January 1999 (1999-01-28)	1-9, 13-18
Y	page 1, line 8 - line 11 page 6, line 27 - page 7, line 4 page 9, line 17 - line 20 page 11, line 10 - line 26 page 13, line 5 - line 7 page 14, line 13 - line 14 ----	10,11
Y	US 5 724 106 A (AUTRY ET AL) 3 March 1998 (1998-03-03)	10,11
A	column 12, line 34 - line 37 column 11, line 52 - line 67 ----	1,17,18
A	US 5 410 326 A (GOLDSTEIN STEVEN W) 25 April 1995 (1995-04-25) abstract -----	1,17,18

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

2 February 2001

Date of mailing of the international search report

08/02/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

Authorized officer

Dockhorn, H

INTERNATIONAL SEARCH REPORT

Information on patent family members

In International Application No

PCT/IB 00/01521

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9904568	A	28-01-1999	EP 0995313 A	26-04-2000
US 5724106	A	03-03-1998	US 5900867 A	04-05-1999
			AU 711306 B	07-10-1999
			AU 2324597 A	17-10-1997
			CA 2250156 A	02-10-1997
			EP 0890156 A	13-01-1999
			JP 2000508134 T	27-06-2000
			WO 9736257 A	02-10-1997
			AT 192596 T	15-05-2000
			CA 2226081 A	06-02-1997
			DE 69608110 D	08-06-2000
			DE 69608110 T	21-09-2000
			EP 0840920 A	13-05-1998
			JP 10512731 T	02-12-1998
			WO 9704431 A	06-02-1997
US 5410326	A	25-04-1995	NONE	